

### REMARKS

Claims 1-8 and 13-20 have been previously canceled. Claims 9, 10 and 12 are currently amended and no claims are currently added or canceled. Claims 9-12 are presented for examination after amendment herein. Applicants respectfully request reconsideration and allowance of the pending claims in view of the foregoing amendments and the following remarks.

As a preliminary matter, Applicants point out that the Attorney Docket number for the instant application is 2003P06449WOUS, and not 2033P06449WOUS as indicated on the cover sheet to this Office Action.

#### Response to Examiner Objection to Amendments:

In the instant Office Action, the Examiner has objected to the amendment filed on December 10, 2008. Specifically, the Examiner contends that the amendment attempts to introduce new matter in to the specification. The Examiner objects to recitation of a “first operative sound signal recorded in a closed state of the valve induced during operation of the pump” and a “second operative sound signal recorded in an open state of the valve induced during operation of the valve.” Also, the Examiner contends that Figure 2 has only one sensor and therefore only one signal and that there is no indication of recording signals during operation of the pump.

Applicants respectfully submit that paragraphs [0009], [0011], [0015], [0017] and the abstract of the PCT application that the instant application incorporates by reference and claims priority to, as well as the originally filed abstract of the disclosure if the instant application all discuss the objected to subject matter. Specifically, the abstract of the disclosure recites in part:

... at least one solid-borne sound sensor is provided. A **first value of a parameter of a sound signal recorded in the closed state of the valve** and a **second value of a parameter of a sound signal recorded in the open state of the valve** are determined ...

Furthermore, paragraph [0017] of the specification directly addresses the embodiment of Figure 2. Applicants respectfully point out that the invention is directed toward a check valve of a positive displacement pump. One of ordinary skill in the art of positive displacement pumps understands that the check valves 8 and 9 are opened and closed by the circulation of the flow

medium as induced by the operation of the pump, as seen in Figures 1 and 2. Therefore, it is self evident that the pump must be in operation for the check valves to operate and therefore the sound signals are measured during operation of the pump.

The Examiner states “par [17] which indicates the comparison of a signal and a delayed signal and the state evaluation occurs prior to the calculation. If the signal is compared to a delayed signal, how is it also indicated that the signal is compared to a stored signal?” Applicants respectfully submit that the delayed signal is merely a sound level value output from device 44 that is delayed in time by a half-period, or half-cycle, in delay unit 46. The delayed sound level value is compared with a current sound level value in device 45. For example, if a current sound level value corresponds to an open state of the valve, then the delayed sound level value will correspond to a closed state of the valve. Also, the current sound level value will continuously become the delayed sound level value on an ongoing basis. Furthermore, the output of device 45 (the comparison of the current and the delayed sound level values) is then compared against a reference threshold value to determine if the threshold value has been exceeded.

The Examiner has taken issue with the recitation of “first” and “second” signal and sound level values in the claims. Paragraph [0015] and Figure 1 identify the discrete measurement of first and second signals, however as discussed above, paragraph [0017] and Figure 2 identify the same data as embodied in Figure 1, where the second signal is time shifted from the first. Therefore, there are discrete first and second signals associated with Figure 2. Furthermore, Applicants have amended claim 9 to recite that the second signal is “determined” and is “based on a last sound signal recorded in the second state of the valve.”

In light of the above discussion, Applicants respectfully submit that the December 10, 2008 amendment does not contain new matter and request the Examiner withdraw the objections to the amendment.

#### Response to Rejections Under Section 112:

In the instant Office Action, the Examiner has rejected claims 9-12 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. In light of the amendments and the discussion above, Applicants request the Examiner withdraw the section 112, first paragraph rejections.

In the instant Office Action, the Examiner has rejected claims 9-12 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner has questioned “what ‘second operative sound signal ... induced during operation of the pump’ is referring to. Applicants submit that the “second operative sound signal” is a sound signal of the valve recorded while the valve is in a second state and the sound signal is “induced during operation of the pump.”

Furthermore, the Examiner contends that it is unclear how the evaluation device 1) follows the calculation device and 2) is for determining the valve state. Applicants have amended claim 9 to further clarify the meaning of the claims. Applicants have amended the previously recited “evaluation device” to currently recite the “determining device” to more directly reflect the language from the specification referring to device 25 which determines the valve state.

Furthermore, Applicants have amended the portion of claim 9 referring to the signal output to further clarify Applicants claimed invention.

Regarding claim 10, Applicants have amended claim 10 to resolve the indefiniteness issues. Regarding claim 11, Applicants submit that claim 11 recites that the valve is a check valve, further clarifying claim 9.

Regarding claims 9 and 12, the Examiner has asked how the valve state is determined. Applicants submit that paragraph [0015] discusses how device 25 determines the valve state (open or closed) for the embodiment of Figure 1 and paragraph [0017] which discusses the embodiment of Figure 2 states that device 43 functions the same as device 25. Furthermore, the claims are to be read in light of the teachings of the specification. Applicants have amended claims 9 and 12 to recite that the valve state is determined via an “auto correlation.”

In light of the discussion above and the amendments to claims 9, 10 and 12, Applicants respectfully submit that the claims meet the requirements of 35 U.S.C. 112 and request the Examiner withdraw the section 112 rejections.

Conclusion

For the foregoing reasons, it is respectfully submitted that the objections and rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, Applicants respectfully request that the Examiner reconsider the objections and rejections and timely pass the application to allowance. All correspondence should continue to be directed to our below-listed address. Please grant any extensions of time required to enter this paper. The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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